

# APPLIED RESEARCH AND METHODS

*Congressional and federal agency decisionmakers need good evaluative and analytical information. In satisfying these needs, GAO's reviews often require the skills and abilities of technical specialists. Applied Research and Methods consults on GAO's efforts, provides technical analysis where required, and performs specialized reviews.*

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## DESCRIPTION OF

## *our work*

Our team is divided into five centers that provide technical assistance to the mission work of GAO and provide analyses and reviews that are highly technical.

***Center for Economics:*** This center provides economic analysis for GAO's work. The staff includes economists with training and experience in various economic specialties. They play a variety of roles on different projects, develop and adapt economic models to evaluate the effectiveness and efficiency of government programs, and examine the economic impact of proposed changes.

***Center for Design, Methods, and Analysis:*** This center provides assistance on job design and technical methods and analysis. The staff includes social science analysts, survey specialists, statisticians, and computer specialists. They help in conceptualizing researchable questions, selecting appropriate research methodologies, designing and implementing data collection strategies, and gathering and analyzing complex data sets.

***Center for Evaluation Methods and Issues:*** This center's objective is to improve the quality of information used in federal decision-making. It helps agencies improve their measurement and evaluation practices by conducting evaluations; developing and assessing methodologies; and making knowledge transfer linkages across GAO, federal agencies, and the broader academic and professional evaluation community.

***Center for Technical Analysis and Evaluation:*** This center's objectives are to aid the Congress in using research findings and to support more efficient and effective use of federal research and development resources. Among other issues, this center evaluates the use of research in public policy decision-making, the appropriateness of research methods, and the credibility of research outcomes.

***Center for Technology and Engineering and the e-Security Laboratory:*** This center's objectives are to improve computer security and the information technology modernization efforts of the federal government and to ensure the technical accuracy of GAO reviews. The staff includes engineers and computer scientists with expertise in systems engineering, software development, real-time systems, computer security, and data networks.

## APPLIED RESEARCH AND METHODS

### IMPACT OF

### *our work*

Our work provides technical assistance on the majority of GAO's products and increases the quality of the work and its reliability. Specific efforts led by the Applied Research and Methods team demonstrate the technical competence of the agency and enhance the agency's reputation for analytical and evaluative expertise.

## HIGHLIGHTS OF RECENT and *future projects*

### *Quality of Federal Information*

- Evaluation of privacy and confidentiality protections for record linkage
- Identification of methods for studying cultural change
- Development of techniques for estimating sensitive survey items

### *Program Evaluation and Performance Measurement*

- Identification of organizational barriers to using performance results for decision-making
- Development of analytical techniques for racial profiling in local motorist stops, and racial and gender profiling in personal searches at airports
- Measurement of program results under limited federal control
- Evaluation of the costs and benefits of major federal rules
- Assessment of methodological quality of research on drug courts and treatment for sexual offenders

### *Government Economy and Efficiency*

- Identification of the impact of changes in the airline industry on competition and airfares
- Evaluation of the impact of the federal budget surplus on the long-term sustainability of the U.S. economy
- Identification of the impact of cigarette prices on teenage smoking
- Development of complex survey instruments for assessing DOD acquisition strategies

### *Government Research and Development*

- Evaluation of DOD's research and development program for detecting landmines
- Evaluation of the safety and efficacy of the anthrax vaccine
- Evaluation of the current chemical and biological equipment to detect and protect against current and emerging threats

### *Information Technology Modernization*

- Evaluation of information technology systems modernization efforts
- Development of a federal enterprise architecture guide
- Evaluation of information technology human capital
- Evaluation of systems development and acquisition processes

### *Computer Security*

- Evaluation of agencies' vulnerability assessments
- Development of enterprise security architecture
- Assessment of computer virus attacks